#### DOCUMENT RESUME

ED 252 548 TM 840 807

AUTHOR Webb, Norman L.; Nerenz, Anne G.

TITLE Information Collected on Nonapplied Time, Engaged

Time, Nonengaged Time and Applied Time. Comparative Studies of Phase IV IGE Evaluation Project. Phase IV,

Project Paper 80-5.

INSTITUTION Wisconsin Univ., Madison. Research and Development

Center for Individualized Schooling.

SPONS AGENCY National Inst. of Education (ED), Washington, DC.

PUB DATE Nov 80

GRANT OB-NIE-G-80-0117

NOTE 111p.; For related documents, see TM 840 804-812 and

TM 850 019.

PUB TYPE Statistical Data (110) -- Reports -

Research/Technical (143)

EDRS PRICE MF01/PC05 Plus Postage.

DESCRIPTORS \*Curriculum Evaluation; Data Analysis; Elementary

Education; Grade 2; Grade 5; \*Mathematics Skills; Programed Instruction; Reading Instruction; \*Reading

Skills; Tables (Data); \*Time Factors (Learning);

\*Time on Task

IDENTIFIERS Developing Mathematical Processes; \*Individually

Guided Education; Prereading Skills Program; Wisconsin Design for Reading Skill Development

#### **ABSTRACT**

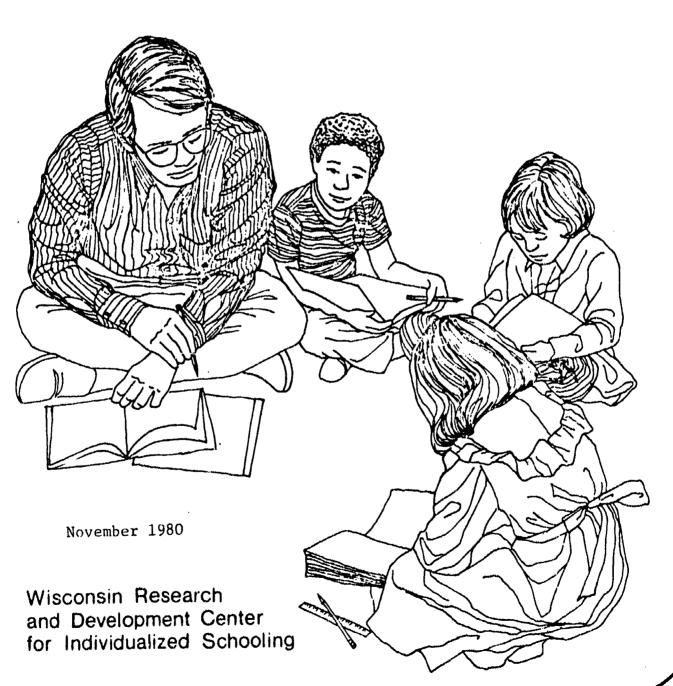
This is one of a series of reports which provide and descriptive data on the variables used in the definitions 👵 Comparative Study of Phase IV of the Individually Guided Education (IEG) Evaluation Project. Phase IV investigated three curriculum programs specifically designed to be compatible with instructional programming for the individual student: (1) the Wisconsin Design for Reading Skills Development (WDRSD); (2) Developing Mathematical Processes (DMP); and (3) Prereading Skills (PRS). Information on instructional methods and pupil outcomes for grades 2 and 5 was collected from achievement monitoring and domain referenced tests, teacher logs, and classroom observations. This report focuses on three variables created from the observational data: nonapplied, available, and engaged time. Nonapplied time is time within the designated skills period spent in unrelated activities. Available time is the time actually available for skill instruction. Engaged time is the portion of the instructional period when students are actively involved in learning. Tables 1-8 report average number of hours and percentage of observed nonavailable, available, and engaged time, by period, for reading and math skills by grade. Tables 13-16 enumerate reading and math general objectives for each grade, and provide the total number of hours and percentages of time allocated to each objective. (BS)

Phase IV Project Paper 80-5

INFORMATION COLLECTED ON NONAPPLIED TIME, ENGAGED TIME, NONENGAGED TIME AND APPLIED TIME

COMPARATIVE STUDIES OF PHASE IV IGE EVALUATION PROJECT

by Norman L. Webb and Anne G. Nerenz



U.S. DEPARTMENT DF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
  - Minor changes have been made to improve reproduction quality
- Points of view or opinions stated ir, this document do not necessarily represent official NIE position or policy.



## Project Paper 80-5

Information Collected on Nonapplied Time,
Engaged Time, Nonengaged Time and Applied Time

IGE Evaluation Phase IV

Comparative Studies

by

Norman L. Webb and Anne G. Nerenz

Report from the IGE Evaluation Project

Thomas A. Romberg Work Group Chairman

Wisconsin Research and Development Center for Individualized Schooling The University of Wisconsin Madison, Wisconsin

November 1980



Published by the Wisconsin Research and Development Center 5. Individualized Schooling. The project presented or rejorted herein wis performed purs—a to a grant from the National Institute of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the National Institute of Education should be inferred.

Center Grant No. OB-NIE-C-80-0117

ERIC Full Text Provided by ERIC

DEST

# MISSION STATEMENT

The mission of the Wisconsin Research and Development Center is to improve the quality of education by addressing the full range of issues and problems related to individualized schooling. Teaching, learning, and the problems of individualization are given concurrent attention in the Center's efforts to discover processes and develop strategies and materials for use in the schools. The Center pursues its mission by

- conducting and synthesizing research to clarify the processes of school-age children's learning and development
- conducting and synthesizing research to clarify effective approaches to teaching students basic skills and concepts
- developing and demonstrating improved instructional strategies, processes, and materials for students, teachers, and school administrators
- providing assistance to educators which helps transfer the outcomes of research and development to improved practice in local schools and teacher education institutions

The Wisconsin Research and Development Center is supported with funds from the National Institute of Education and the University of Wisconsin.

WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR INDIVIDUALIZED SCHOOLING



## Table of Contents

list o	f Tab	les	•	•	•	•	•	•	•	•	•	•	٠	٠	٠	٠	•	•	•	•		•	•	•	٠	vi
Abstra	ct.		•	•	•	•	٠	•	•	•		•	•	•	•	•	•	•	•	•	•	• ·	•	•	•	i.x
Introd	uctio	n.	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	1
Defini	tions	an	d A	Agg	gre	ega	at:	ior	n I	Pro	oc e	edu	ır	28	•	•	•	•	•	•	•	•	•	•	•	3
A	onapp vaila ngage	ble	T	ime	3	•	•	•	•	•		•		•	•	•	•	•	•		•	•	•	•	•	3
Refere	nce I	i ot																								53



# List of Tables

1.	Average Number of Hours and Percentage of Observed Allocated Time for Three Categories of Non-applied Time by Period for Reading Skills - Grade 2	7
2.	Average Number of Hours and Percentage of Observed Allocated Time for Three Categories of Non-applied Time by Period for Reading Skills - Grade 5	10
3.	Number of Hours and Percentage of Observed Allocated Time for Three Categories of Non-applied Time by Period for Mathematics Skills - Grade 2	13
4.	Average Number of Hours and Percentage of Observed Allocated Time for Three Categories of Non-applied Time by Period for Mathematics Skills - Grade 5	16
5.	Average Number of Hours and Percentage of Observed Time for Engaged Time by Period for Reading Skills - Grade 2	19
6.	Average Number of Hours and Percentage of Observed Time for Engaged Time by Period for Reading Skills - Grade 5	20
7.	Average Number of Hours and Percentage of Observed Time for Engaged Time by Period for Mathematics Skills - Grade 2	21
8.	Average Number of Hours and Percentage of Observed Time for Engaged Time by Period for Mathematics Skills - Grade 5	22
9.	Average Number of Hours and Percentage of Observed Time for Nonengaged Time by Period for Reading Skills - Grade 2	23
10.	Average Number of Hours and Percentage of Observed Time for Nonengaged Time by Period for Reading Skills - Grade 5	24
11.	Average Number of Hours and Percentage of Observed Time for Nonengaged Time by Period for Mathematics Skills - Grade 2	25



12.	Average Number of Hours and Percentage of Observed Time for Nonengaged Time by Period for Mathematics Skills - Grade 5	26
13.	Total Number of Hours and Percentage of Allocated Time by Period for 12 Reading Skills General Objectives - Grade 2	27
14.	Total Number of Hours and Percentage of Allocated Time by Period for 12 Reading Skills General Objectives - Grade 5	34
15.	Total Number of Hours and Percentage of Allocated Time by Period for Mathematics General Objectives - Grade 2	41
16.	Average Number of Hours and Percentage of Available Time by Period for Mathematics General Objectives - Grade 5	48



#### Abstract

This report is one in a series of papers which provide a definition of and descriptive information on the variables used in the Comparative studies of Phase IV of the IGE Evaluation Project. Specifically, it focuses on three variables - Nonapplied Time, Available Time, and Engaged Time.

A more detailed discussion of the design of the study and the expected relationships among the variables is available in Project Paper 80-2 (Komberg, Webb, Stewart, and Nerenz, 1980) and readers might find that report helpful in understanding the data presented here.



iх

The IGE Evaluation Project has as a central objective the identification of features of IGE schooling which contribute to successful instruction, especially in reading skills and mathematics. Although the first four phases of this project focused on different aspects of IGE, they were designed to provide complementary data bases resulting in a comprehensive description of this form of schooling. With this goal in mind, Phase IV was designed to supplement information collected in Phases I and III by providing detailed information on a small number of curricular and instructional variables. That is, whereas these phases investigated organizational, system, general means of instruction, and general achievement variables, the main purpose of Phase IV was to investigate the three R & D Center-produced curriculum programs whose instructional procedures and materials were specifically designed to be compatible with instructional programming for the individual student. These programs are the Wisconsin Design for Reading Skills Development (WDRSD) (Otto, 1977), Developing Mathematical Processes (DMP) (Romberg, 1977), and Prereading Skills (PRS) (Venezky & Pittelman, 1977).

Phase IV was divided into two parts—the Descriptive Study and the Comparative Study—and information on the design and procedures used during each portion may be found in Project Papers 79-42 and 80-2 (Webb & Romberg, 1979; Romberg, Webb, Stewart, & Nerenz, 1980).

Briefly, each part was designed to provide detailed information



on two variables - means of instruction and pupil outcomes - using achievement monitoring and domain referenced tests, teacher logs, and classroom observations. In addition, a smaller amount of information on background, organizational, and program variables was obtained using principal, unit leader, and teacher interviews.

This report focuses on three variables created from the observational data - Nonapplied, Available, and Engaged Time. Following a definition of each variable and an explanation of the aggregation procedures, the primary data are presented.



### Definitions and Aggregations Procedures

#### Non-applied Time

Definition. Non-applied time is that time within the designated skills period that is spent in activities which are unrelated to reading skills or to math. This includes time spent in transition, waiting, management, break, or other academic or nonacademic content area.

Aggregation Procedures. The six types of non-applied time listed above were aggregated into three subvariables: undirected time (transition, waiting), supervised time (management, break) and other content (other academic or non-academic content).

### Available Time

Definition. Available time equals the total amount of observed time less the non-applied time and thus is that portion of the instructional period which remains once undirected, supervised, and other content time have been subtracted. As indicated by the variable name, it is the time which is actually available for skills instruction. Available time was not aggregated; however, the total minutes and percentages of available time are reported in terms of the aggregated content variables discussed in Report 80-3 (Nerenz & Webb, 1980).



## Engaged and Non-engaged Time

<u>Definition</u>. Engaged time is that portion of the instructional period during which students are actively involved in learning the particular content. When summed, Engaged Time and its complement, Non-engaged Time, equal Available Time.

Aggregations. Total minutes and percentage of engagement or nonengagement are reported as the aggregated variables Total Engagement
and Total Nonengagement whenever reading skills and mathematics content
are considered. In creating these variables, the three types of engaged
student behavior (engaged-writing, engaged-oral, engaged-covert) were
summed. Similarly, Total Nonengagement was created by summing the
three categories of non-engaged behavior (non-engaged writing, nonengaged iterim, non-engaged off-task).

Tables 1 and 2 which follow report average number of hours and percentage of observed allocated time by period for reading skills, by grade; Tables 3 and 4 report similar data for math skills by grade. Tables 5-8 provide this data for engaged time, by skill and by grade. Data for nonengaged time is in Tables 9-12. Tables 13-16 enumerate reading and math general objectives for second and fifth grade and provide the total number of hours and percentage of time allocated to each.



Table 1

Average Number of Hours and Percentage of Observed Allocated Time for

Three Categories of Non-applied Time by Period for Reading Skills

Grade 2

Cahool Mars			Pe	riod (Hours,	%)			- Total
School Type and Number	A	В	С	D	E	F	G	Hours
			Undirec	ted Time				
IGE/WDRSD								
466		.41, 7	2.17,17	.78, 9	.87,10	1.84,10	.14, 2	6.21
451	2.03,14	.27, 5	0, 0	.09, 9	.44, 6	.4 , 6	.07, 1	3.3
476	.24, 3		.31,33	.16, 2	<b></b>	-	.21, 3	.92
507	. 5, 3	.14, 1	.13, 1	.96, 5	-	-	.07, 1	1.8
MEAN	.69, 5	.20, 3	.65,13	.50, 6	.33, 4	.56, 4	.12, 2	3.06
IGE/Non-WDRSD								
372	1.37, 5	3.41, 8	5.3 ,10	2.38, 6	1.75, 7	.55, 2	2.11, 5	16.87
410	0,0	0,0	.19, 1	0,0	.35, 3	.45, 2	.83, 3	1.82
493	1.1 ,19	1.23, 7	1.31, 8	.78, 7	1.89, 8	1.18,13	.91, 5	8.4
MEAN	.82. 5	1.55, 5	2.27, 6	1.05, 4	1.33, 6	.73, 6	1.28, 4	9.03
Non-IGE/WDRSD								
900	1.46,12	1.36,18	-	.94,16	.91,12	.53,14	.83,14	6.03
902	.16, 4	-	.97,12	.53,10	1.48,25	1.65,21	1.44,18	6.23
901	.34, 3	.61 , 6	2.16, 8	.54, 3	.42, 3	.38, 4	.49, 3	7.94
903	.22, 3	-	.45, 4		.30, 4	.33, 4	.58, 6	1.88
MEAN	.54, 3	.49, 6	.90, 6	.50, 6	1.45,11	.72,11	.83,10	5.52
14								15

School Type and Number  A B C D E F G  Supervised Time  IGE/WDRSD  466 11, 2 .46, 4 .59, 7 .37, 4 1.63, 9 .64,11  451 .0, 0 .07, 1 0, 0 0, 0 .10,11 0, 0 .16, 2  476 .06, 111, 211, 2 .11, 2  50713, 1 .41, 2 .12, 1 .13, 1 .11, 1  NEAN  .02, 0 <sup>†</sup> .04, 1 .18, 2 .25, 2 .15, 2 .47, 3 .26, 4  IGE/Non-WDRSD  372 .50, 2 1.24, 3 1.74, 3 .98, 3 .47, 2 1.10, 4 1.27, 3  410 0, 0 0, 0 0, 0 0, 0 0, 0 .10, 1 0, 0 0, 0				Per	riod (Hours,	%)			Tota1
IGE/WDRSD  466 11, 2 .46, 4 .59, 7 .37, 4 1.63, 9 .64,11  451    .0, 0 .07, 1 0, 0 0, 0 .10,11 0, 0 .16, 2  476    .06, 111, 211, 2 .11, 2  507    .02, 0+ .04, 1 .18, 2 .25, 2 .15, 2 .47, 3 .26, 4   IGE/Non-WDRSD  372    .50, 2 1.24, 3 1.74, 3 .98, 3 .47, 2 1.10, 4 1.27, 3  410    0, 0 0, 0 0, 0 0, 0 0, 0 .10, 1 0, 0 0, 0		A	В	С	D .	E	F	G	Hours
466 451 451 .0,0 .07,1 0,0 0,0 .10,11 0,0 .16,2 .11,1 .11,1  MEAN  .02,0 <sup>†</sup> .04,1 .18,2 .25,2 .15,2 .47,3 .26,4  .127,3 .26,4  .127,3 .410 .99,3 .47,2 .110,4 .127,3 .410 .90,0 .0,0 .10,1 .0,0 .0,0 .0,0 .0,0 .0,0		<u> </u>		Supervis	sed Time				
466 451 451 .0,0 .07,1 0,0 0,0 .10,11 0,0 .16,2 .11,1 .11,1  MEAN  .02,0+ .04,1 .18,2 .25,2 .15,2 .47,3 .26,4  .127,3 .26,4  .127,3 .26,4  .127,3 .27,3 .28,3 .28,3 .28,3 .28,4 .28,4 .28,4 .28,4 .28,4 .28,4 .28,4 .28,6 .28,						,			
451 476 476 476 476 476 476 476 476 476 476	E/WDRSD								
476 507	466		.11, 2	.46, 4	.59, 7	.37, 4	1.63, 9	.64,11	4.37
507       -       -       .13, 1       .41, 2       .12, 1       .13, 1       .11, 1         MEAN       .02, 0+       .04, 1       .18, 2       .25, 2       .15, 2       .47, 3       .26, 4         IGE/Non-WDRSD       .50, 2       1.24, 3       1.74, 3       .98, 3       .47, 2       1.10, 4       1.27, 3         410       0, 0       0, 0       0, 0       0, 0       .10, 1       0, 0       0, 0         493       -       .86, 5       .57, 3       .12, 1       -       -       -         MEAN       .17, 1       .70, 3       .77, 2       .37, 1       .19, 1       .37, 1       .42, 1         Non-IGE/WDRSD       -       .76, 10       -       .72, 12       -       .12, 3       -         902       .85, 23       .31, 10       1.93, 24       -       .06, 1       -       -         901       .55, 5       -       .48, 2       -       -       .08, 1       -         903       -       -       -       .92, 13       .91, 12       .62, 6         MEAN       .35, 7       .27, 5       .60, 6       .18, 3       .24, 4       .28, 4       .15, 1	451	. 0, 0	.07, 1	0, 0	0,0	.10,11	0,0	.16, 2	.33
MEAN  .02, 0 <sup>+</sup> .04, 1 .18, 2 .25, 2 .15, 2 .47, 3 .26, 4  IGE/Non-WDRSD 372 .50, 2 1.24, 3 1.74, 3 .98, 3 .47, 2 1.10, 4 1.27, 3 410 0, 0 0, 0 0, 0 0, 0 .10, 1 0, 0 0, 0 0, 0 493 .17, 1 .70, 3 .77, 2 .37, 1 .19, 1 .37, 1 .42, 1  Non-IGE/WDRSD 900 - 902 .85, 23 .31, 10 1.93, 24 - 901 .55, 5 - 48, 2 - 903 .62, 6  MEAN  .35, 7 .27, 5 .60, 6 .18, 3 .24, 4 .28, 4 .15, 1	476	.06, 1	-	.11, 2	-	-	.11, 2	.11, 2	.39
IGE/Non-WDRSD  372  410  0,0  0,0  0,0  0,0  0,0  0,0  1.24, 3  1.74, 3  0,0  0,0  0,0  0,0  1.10, 1  0,0  0,0  0,0  493	507	-	~	.13, 1	.41, 2	.12, 1	.13, 1	.11, 1	•09
372	AN	.02, 0+	.04, 1	.18, 2	.25, 2	.15, 2	.47, 3	.26, 4	1.50
410 410 0,0 0,0 0,0 0,0 0,0 110,1 0,0 0,0 493  MEAN  .17,1  .70,3  .77,2  .37,1  .19,1  .37,1  .42,1  Non-IGE/WDRSD 900 - 902 .85,23 .31,10 1.93,24 - 901 .55,5 - 48,2 - 903 - 903	E/Non-WDRSD								
493  MEAN	372	.50, 2	1.24, 3	1.74, 3	.98, 3	.47, 2	1.10, 4	1.27, 3	7.3
MEAN  .17, 1  .70, 3  .77, 2  .37, 1  .19, 1  .37, 1  .42, 1  Non-IGE/WDRSD  900 76,1072,1212, 3901  .55, 548, 206, 1908, 1903  MEAN  .35, 7  .27, 5  .60, 6  .18, 3  .24, 4  .28, 4  .15, 1	410	0,0	0, 0	0,0	0, 0	.10, 1	0, 0	0, 0	.1
Non-IGE/WDRSD 90076,1072,1212, 3902 901 .55, 548, 206, 193,14 90372,15 .60, 6 .18, 3 .24, 4 .28, 4 .15, 1	493		.86, 5	.57, 3	.12, 1	<del>~</del>			1.55
900	AN	.17, 1	.70, 3	.77, 2	.37, 1	.19, 1	.37, 1	.42, 1	2.98
902 901 903	on-IGE/WDRSD								
901 903	900	-	.76,10	-	.72,12	-	.12, 3		. 53
903 MEAN 92,13 .91,12 .62, 6  .35, 7 .27, 5 .60, 6 .18, 3 .24, 4 .28, 4 .15, 1	902	.85,23	.31,10	1.93,24	, <b></b>	.06, 1	-	-	3.15
	901	.55, 5	-	.48, 2			1	1 1	1.11
	903	, <b>-</b> -	-		-	.92,13	.91,12	.62, 6	2.45
	IAN	.35, 7	.27, 5	.60, 6	.18, 3	.24, 4	.28, 4	.15, 1	1.81
<b>L.</b>	•	'		•	'		•		

Table 1 (continued)

			Pe	riod (Hours,	%)			Total
School Type and Number	A	В	, C	D	E	F	G	Hours
			Other Con	tent Time				
IGE/WDRSD								1 60
466	-	.26, 5		.21, 2	.63, 7	.59, 3	-	1.69
451	0, 0	1. 0,19	0, 0	.67,28	1.23,15	.92,13	0, 0	3.82
476	.06, 1		-		-	-	-	.06
507	.17, 1	.45, 4	.96, 6	.56, 3	48,_2	.06, 0+	.86, 8	3.54
MEAN	.06, 0+	.43, 7	.24, 1	.36, 8	.58, 6	.39, 4	.22, 2	2.28
IGE/Non-WDRSD								
372	0, 0	3.21, 8	1.10, 2	1.56, 4	.30,1	0, 0	.46, 1	6.6
410	0,0	0,0	.20, 1	.45, 2	.50, 4	.41, 2	.12, 1	1.6
493	.38, 3	.23, 1	2.47,14	1.41,13	.27, 1		.13, 1	4.8
MEAN	.10 , 1	1.15, 3	1.26, 6	1.14, 6	.36, 2	.14, 1	.24, 1	4.4
Non-IGE/WDRSD								
<b>9</b> 00	_	.46, 6		.78,13	-	1.07,28	-	2.3
902	-	-	.12, 1	-	-		-	•1
901	.37, 3	.09, 1	-	.68, 3	.58, 4	_	.16, 1	1.8
903	_		1.03,10	_	.06, 1			1.0
MEAN	.09, 1	.14, 2	.29, 3	.36, 4	.16, 1	.27, 7	.04, 0+	1.3

Table 2

Average Number of Hours and Percentage of Observed Allocated Time for

Three Categories of Non-applied Time by Period for Reading Skills

Cabaal Musa			Pe	riod (Hours,	%)			<b></b> 1
School Type and Number	A	В	С	D	E	F	G	Total Hours
		ν	Undirec	ted Time				
IGE/WDRSD								•
466	0, 0	.43, 8	.89, 9	.48, 8	0, 0	.69, 6	1.21,11	3.7
451	.44, 4	1.39,12	0, 0	0,0	.53, 5	.35, 3	.33, 3	3.04
476	.06, 0+	0,0	.22, 2	0,0	0, 0	0,0	.50, 4	.78
507	.28, 2	0,0	0, 0	0,0	0, 0	0, 0	.11, 3	.39
ME 'N	.20, 2	.46, 5	.28, 3	.12, 2	.13, 1	.26, 2	.54, 5	1.98
IGE/Non-WDRSD								
372	1.11, 4	1.27, 4	1.76, 5	.91, 4	.72, 3	.51, 3	.12, 0+	6.4
410	0, 0	.14, 1	.20, 1	.22, 2	.05, 1	.40, 3	.06, 0 <sup>+</sup>	1.07
493	.51, 6	.21, 1	.37, 3	.05, 1	.10, 1	.31, 3	.05, 0+	1.6
MEAN	.54, 3	.54, 2	.78, 3	.39, 2	.29, 2	.41, 3	.08, 0+	3.02
Non-IGE/WDRSD				;				
900	.89,11	1.06,11	0, 0	.69, ۶	.49, 4	.42, 8	.66, 7	4.21
902	0, 0	0, 0	1.66,19	1.55,27	.67,12	.89,10	2.23,25	7.0
901	1.44,11	2.02,19	1.15, 6	1.12,12	.97, 5	.19, 2	1.58,14	8.47
903	.06, 1	.04, 1	.21, 3	0, 0	.21, 2	.11, 1	.31, 3	.94
) MEAN	.60, 6	.78, 8	.76, 8	.84,12	.58, 6	.40, 5	1.20,12	5.16

Table 2 (continued)

			Per	riod (Hours,	%)			Total
School Type - and Number	A	В	С	D	E	F	G	Hours
		· · · · · · · · · · · · · · · · · · ·	Supervi	sed Time				
IGE/WDRSD			·					2.06
466	0, 0	.05, 1	.46, 5	.18, 3	0, 0	.77, 6	.60, 5	2.06
451	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	.06, 1	.06
476	0, 0	0, 0	.51, 4	0, 0	0, 0	0, 0	0, 0	.51
507	0, 0	0, 0	21, 1	.04, 0+	0, 0	<u>.13, 2</u>	.05, 1	.43
MEAN	0, 0	.01, 0+	.30, 2	.06, 1	0, 0	.22, 2	.18, 2	.76
IGE/Non-WDRSD								
372	.11, 0+	.06, 0+	.34, 1	.10, 0+	0, 0	.06, 0 <sup>+</sup>	.~, 1	1.02
410	0, 0	0, 0	0, 0	0, 0	.10, 1	.40, 3	.81, 3	1.31
493	0, 0	0, 0	0, 0	0,0	<u>.06, 0<sup>+</sup></u>	0, 0	0, 0	.06
MEAN	.04, 0+	.02, 0+	.08, 0+	.03, 0+	.02, 0+	.15, 1	.39, 1	.80
Non-IGE/WDRSD								
900	.16, 2	1.42,14	0, 0	.32, 4	.18, 2	0, 0	0, 0	2.08
902	.59,12	.04, 1	1.62,19	.68,12	1.44,26	0, 0	0, 0	4.37
901	.09, 1	.19, 2	0, 0	.61, 7	0, 7	.40, 5	.13, 1	1.42
903	0,10	0, 0	0, 0	0,0	.86, 9	.93,12	.21, 2	2.0
MEAN	.21, 3	.41, 4	.40, 5	.40,6	.62, 9	.24, 4	.09, 1	2.47



Table 2 (continued)

			Pe	riod (Hours,	<b>%</b> )			Total
School Type and Number	A	В	С	D	E	F	G	Hours
		۸.	Other Con	tent Time		1		
IGE/WDRSD							·	
466	0, 0	.65,12	1.09,11	1.12,19	0, 0	2.52,21	1.68,15	7.06
451	0, 0	.20, 2	0,0	.90,28	0,0	.31, 3	2.59,24	4.0
476	0, 0	2.67,27	3.45,28	0, 0	0, 0	0,0	0,0	6.12
50 <b>7</b>	.30, 2	1.73,27	34, 2	2.37,22	0, 0	.25, 4	0, 0	4.99
MEAN	.08, 0+	1.31,17	1.22, 7	1.10,17	0, 0	.77, 7	1.07,10	5.54
IGE/Non-WDRSD								
372	.36, 2	.12, 1	.29, 1	.15, 1	.29, 1	.41, 2	.23, 1	1.85
410	0,0	0, 0	.33, 2	.28, 3	0, 0	0, 0	.35, 1	.96
493	1.43,16	2.46,15	2.24,17	1.35,16	.64, 4	.38, 3	1.80,18	10.3
MEAN	.60, 6	.86, 5	.95, 7	.59, 7	.31, 2	.26, 2	.79, 7	4.37
Non-IGE/WDRSD								
900	0, 0	.47, 5	0,0	0,0	2.40,21	0, 0	0, 0	2.87
902	0, 0	.17, 4	0, 0	0, 0	0, 0	0, 0	0, 0	.17
901	0, 0	.18, 2	1.81, 9	.72, 8	.40, 2	1.67,21	.13, 1	4.91
903	0, 0	0, 0	.06, 1	0, 0	.47, 5	.34, 4	0, 0	.87
1 MEAN	0, 0	.20, 3	.48, 2	.18, 2	.82, 7	.50, 6	.03, 0+	2.20



Table 3 Number of Hours and Percentage of Observed Allocated Time for Three Categories of Non-applied Time by Period for Mathematics Skills

			Per	iod (Hours,	<b>%</b> )			Total
School Type and Number	A	В	С	D	E	F	G	Hours
			Undirect	ed Time				
IGE/DMP			~					
440	.81, 7	.87, 8	.76,10	.31, 3	.33, 3	.11, 3	1.35, 9	4.54
	.34, 2	.24, 1	.25, 5	.89, 4	.87, 5	.26, 2	21, 2	3.06
593	.58, 4	.56, 4	.50, 8	.60, 4	.60, 4	.18, 2	.78, 6	3.80
MEAN	130,		·		i			
IGE/Non-DMP								
428	0, 0	0, 0	.07, 3	.43, 4	.48, 4	.50, 8	.37, 5	1.85
421	1	.46, 4	~	.58, ó	.71, 7	.97,10	.56, 8	4.09
333	.81, 7		.14, 1	.10, 2	.43, 6	21, 2	13, 1	2.05
333	.11, 1	.93, 8		.37, 4	.54, 6	.56, 7	.35, 4	2.66
MEAN	.31, 3	.46, 4	.10, 2	.3/, 4	134, 0	,	·	
Non-IGE/DMP								
904	.12, 1	υ, ο	0, 0	.84, 8	.72, 6	0, 0	0, 0	1.68
906	.56, 4	.08, 1	.50, 3	0, 0	.14, 1	.06, 1	.17, 1	1.51
762		2.31, 8	3.25,10	.85, 7	.65, 2	1.51, 8	1.50, 6	12.35
/ 02	2.28, 9	.80, 3	1.25, 4	.56, 5		.52, 3	.56, 2	5.18
MEAN	.99, 5	,00, J	1.23, 4	, 50, 5 ,				
26						}	ı	2

			Per	ciod (Hours,	<b>%</b> )			- Total
School Type and Number	A	В	С	D	E	F	G	Hours
		,	Supervis	sed Time	1			T
IGE/DMP								
440	.17, 2	.23, 2	.29, 4	.41, 4	0, 0	0, 0	0, 0	1.10
593	0, 0	0, 0	0, 0	0, 0	0,0	0, 0	0, 0	0
MEAN	.08, 1	.12, 1	.15, 2	.20, 2	0, 0	0, 0	0, 0	.55
IGE/Non-DMP								
428	0, 0	0,0	0, 0	.90, 8	0, 0	.12, 2	0, 0	1.02
421	.29, 2	0,0	-	.29, 3	0, 0	.10, 1	0, 0	.68
333	0,0	0, 0	.44, 4	.40, 7	0, 0	.15, 1	.58, 6	1.57
MEAN	.10, 1	0, 0	.15, 1	.53, 6	0, 0	.12, 1	.19, 2	1.09
Non-IGE/DMP								
904	0,0	.32, 0	0, 0	0, 0	0, 0	0, 0	0, 0	.32
906	0, 0	0, 0	.68, 4	.11, 1	0, 0	0, 0	.23, 2	1.02
762	5.26,20	2.51, 8	3.97,12	.67, 6	.77, 2	.73, 4	1.22, 5	15.13
MEAN	1.75, 7	.94, 3	1.55, 5	.26, 2	.26, 1	.24, 1	.48, 2	2.16
8								



Table 3 (continued)

			Per	iod (Hours,	%)			Total
School Type and Number	A	В	С	D	Е	F	G	Hours
			Other Cont	ent Time		· · · · · · · · · · · · · · · · · · ·		1
IGE/DMP								·
440	0, 0	0, 0	0, 0	.28, 3	.17, 2	.16, 4	.37, 2	.98
593	0, 0	0, 0	.05, 1	0, 0	0, 0	.87, 8	0, 0	.92
MEAN	0, 0	0, 0	.02, 0+	.14, 2	.08, 1	.51, 6	.18, 1	.95
IGE/Non-DMP	,						İ	
428	0, 0	0, 0	0, 0	0, 0	0, 0	0,0	0,0	0.00
421	.06, 1	1.11, 9	-	0, 0	.37, 4	1.56,15	.11, 2	3.21
333	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0,0	0.00
MEAN	.02, 0+	.37, 3	0, 0	0, 0	.12, 1	.52, 5	.04, 1	1.07
Non-IGE/DMP								
904	.06, 0+	.31, 2	.47, 4	.83, 8	.17, 1	0, 0	0, 0	1.84
906	.42, 3	.42, 3	0, 0	0, 0	0, 0	0, 0	0, 0	.84
762	1.91, 7	11.50,38	7.38,23	.27, 2	3.56,11	1.70, 9	8.41,34	34.73
MEAN	.80, 3	4.08,14	2.61, 9	.37, 3	1.24, 4	.57, 3	2.80,11	1.2.47

Table 4

Average Number of Hours and Percentage of Observed Allocated Time for Three Categories of Non-applied Time by Period for Mathematics Skills

			Per	riod (Hours,	<b>%)</b>	·,		m = 4 = 4
School Type and Number	A	В	С	D	. Е	F	G	Total Hours
			Undirec	ted Time			1	
IGE/DMP				,				
440	.83, 5	.58, 3	.53, 7	.24, 1	.66, 4	.05, 1	1.62, 6	4.51
593	1.34,11	1.03, 8	.16, 4	1.30, 8	1.67,10	1.19,10	.19, 2	6.88
MEAN`	1.08, 8	.80, 6	.34, 6	.77, 4	1.16, 7	.62, 6	1.81, 4	5.70
IGE/Non-DMP						,	i	·
428	.14, 1	.06, 1	.12, 2	.33, 2	.52, 4	.27, 3	.76, 5	2.2
333	0, 0	.77, 4	.24, 2	.11, 1	0, 0	.20, 4	0, 0	1.32
MEAN	.07, 1	.42, 2	.18, 2	.22, 2	.26, 2	.24, 4	.38, 2	1.76
Non-IGE/DMP								
905	0, 0	0, 0	.16, 1	.05, 0+	.20, 2	.06, 1	.10, 1	. 57
906	.08, 0+	.07, 0+	.54, 6	.06, 0	.18, 1	.15, 1	.25, 1	1.33
MEAN -	.04, 0+	.04, 0+	.35, 4	.06, 0+	.19, 2	.10, 1	.18, 1	.95

Table 4 (continued)

1			Per	riod (Hours,	ક) <u> </u>			Total
School Type - and Number	A	В	С	D	E	F	G	Hours
			Supervis	sed Time				
IGE/DMP								
440	.18, 1	.53, 3	0, 0	.59, 3	.18, 1	<b>0,</b> 0	.19, 1	1.67
593	.22, 2	0, 0	0, 0	.06, 0+	.13, 1	0, 0	.12, 2	.53
MEAN	.20, 2	.26, 2	0, 0	.32, 2	.16, 1	0, 0	.16, 2	1.10
IGE/Non-DMP								
428	0, 0	0, 0	.99,20	.47, 3	.12, 1	0, 0	0, 0	1.58
333	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	0
MEAN	0, 0	0, 0	.50,10	.24, 2	.06, 1	0, 0	0, 0	.79
Non-IGE/DMP							- r ot	2.4
905	0, 0	0, 0	.21, 2	0, 0	.07, 1	0, 0	.06, 0+	.34
906	0, 0	0, 0	0,0	.25, 1	0, 0	0.0	.82, 4	1.07
MEAN	0, 0	0, 0	.10, 1	.12, 1	.02, 1	.0 ,0	.44, 2	.70
	ļ							



Table 4 (continued)

			Pe	riod (Hours,	%)			Total
School Type and Number	A	В	С	D	Е	F	G	Hours
	· · · · · · · · · · · · · · · · · · ·		Other Con	tent Time				
IGE/DMP								
440	1.85,11	0, 0	0, 0	0, 0	.94, 5	0, 0	0, 0	2.79
593	.06, 0+	0, 0	0, 0	0, 0	0, 0	0, 0	0, 0	.06
MEAN	1.46, 6	0, 0	0, 0	0, 0	.47, 2	0, 0	0,0	1.42
IGE/Non-DMP								
428	0, 0	0, 0	.06, 1	.13, 1	0,0	0, 0	0,0	.19
333	0, 0	.06, 0+	0, 0	.16, 2	0, 0	0, 0	0, 0	.22
MEAN	0, 0	.03, 0+	.03, 1	.15, 2	0,0	0, 0	0, 0	.20
Non-IGE/DMP				,,,,	0 0	.83, 9	0, 0	1.78
905	.17, 1	.31, 2	0, 0	.47, 4	0, 0		1	3.18
906	.33, 2	1.12, 7	.44, 5	0, 0	.56, 3	0, 0	.73, 4	
36mean	.25, 2	.72, 4	.22, 2	.24, 2	.28, 2	.42, 4	.36, 2	2.48
	46				-			

Table 5

Average Number of Hours and Percentage of Observed Time for

Engaged Time by Period for Reading Skills

Grade 2

			Pe	riod (Hours,	<b>%</b> )			Total
School Type and Number	A	В	С	D	E	F	G	Hours
IGE/WDRSD								
466		3.92,70	5.74,46	4.08,47	4.65,52	9.19,52	2.99,52	30.57
451	10.40,70	3.12,59	2.01,80	1.11,46	4.71,59	3.88,54	4.69,66	29.83
476	5.04,71	4.93,70	3.82,59	4.62,69	4.16,64	3.21,75	4.84,70	30.62
507	10.03,67	9.55,76	9.53,65	11.88,67	12.69,68	12.33,77	8.13,74	74.05
MEAN	6.37,52	5.38,69	5.28,62	5.42,57	6.53,60	7.15,64	5.14,66	41.27
IGE/Non-WDRSD								
372	18.84,71	24.58,58	38.08,70	18.56,50	13.87,59	18.58,66	27.53,60	160.04
410	11.49,74	4.15,69	13.25,24	20.56,81	9.45,77	14.49,82	19.24,81	92.63
493	7.72,64	12.21,74	8.29,49	6.74,63	15.57,69	7.16,80	11.26,67	68.95
MEAN	12.68,70	13.65,67	19.87,64	15.29,65	12.96,68	13.41,76	19.34,69	107.21
Non-IGE/WDRSD	,		i Ì					
900	10.42,85	4.40,58	_	2.65,45	4.58,60	1.12,29	4.43,74	27.60
902	2.22,59	2.30,72	3.48,42	4.60,88	3.82,65	4.38,55	4.93,62	25.73
901	7.92,67	5.63,53	11.39,45	10.61,55	6.82,52	5.39,57	7.93,52	55.69
903	3.86,51	3.02,63	3.90,39		3.70,51	5.11,70	5.41,56	25.00
MEAN	6.10,66	3.84,62	4.69,32	4.46,47	4.73,57	4.00,53	5.68,61	33.50
38	1		1	1			1	1 3

Table 6

Average Number of Hours and Percentage of Observed Time for Engaged Time by Period for Reading Skills

Cahaal mai			P	eriod (Hours	, ♦)			
School Type and Number	A	В	С	D	E	F	G	Total Hours
IGE/WDRSD								
· 466	-	3.71,70	4.12,43	2.53,42	-	5.47,46	5.72,52	21.55
451	6.77,70	7.23,65	-	1.94,61	7.54,69	8.09,73	5.63,52	37.20
476	8.97,79	4.86,50	3.71,31	8.38,86	6.42,77	5.75,87	8.02,68	46.11
507	9.98,67	3.51,54	10.27,69	6.21,58	5.61,80	5.11,74	2.33,60	43.02
MEAN	25.72,54	19.31,60	18.10,36	19.06,62	19.57,56	24.42,70	21.70,58	147.88
IGE/Non-WDRSD								
372	15.87,69	14.31,67	22.13,66	16.65,67	14.96,65	11.67,71	12.66,53	108.25
410	8.22,78	10.45,91	12.54,94	7.62,85	7.06,97	10.29,87	27.27,92	83.45
493	6.02,66	8.21,50	6.91,53	5.13,62	11.00,76	9.70,89	5.71,57	52.68
MEAN	30.11,71	32.97,69	41.58,71	29.40,71	33.02,79	31.66,82	45.64,67	244.38
Non-IGE/WDRSD								
900	5.78,69	5.46,55	-	6.39,71	4.76,42	2.09,39	4.82,54	29,30
902	2.62,55	2.63,67	4.06,67	3.31,57	2.46,44	6.73,78	5.91,66	27.72
901	7.59,57	7.45,71	13.13,64	4.78,52	13.50,70	4.01,50	7.09,64	57.55
1 () 903	3.12,62	4.09,58	4.20,58	_	6.30,66	5.03,66	7.68,78	30.42
MEAN	19.11,61	19.63,63	21.39,42	14.48,45	27.02,56	17.86,58	25.50,66	144.99

Table 7

Average Number of Hours and Percentage of Observed Time for 
Engaged Time by Period for Mathematics Skills

			Pe	eriod (Hours,	<b>%</b> )			_
School Type and Number	A	В	С	D	Ł.	F	G	Total Hours
				· · · · · · · · · · · · · · · · · · ·		<del></del>	·	
IGE/DMP								
440	「.89 <b>,</b> 54	7.10,66	4.32,56	4.73,52	5.33,55	2.02,58	9.69,63	38.99
593	12.60,74	11.64,65	3.41,63	13.22,63	11.06,67	7.66,67	8.92,77	68.51
MEAN	9.24,64	9.37,66	3.86,60	8.98,58	8.20,61	4.84,62	9.26,70	53.75
IGE/Non-DMP								
428	3.88,78	4.20,84	1.79,71	8.51,72	5.60,71	2.65,41	4.42,60	31.05
421	7.85,69	7.04,60		2.92,28	2.76,28	3.22,32	3.01,42	26.80
333	6.93,74	5.63,49	8.16,74	4.32,72	5.50,80	6.78,66	6.46,70	43.78
MEAN	6.22,73	5.62,64	3.32,49	5.25,57	4.62,60	4.22,46	4.63,58	33.88
Non-IGE/DMP		*			<i>a</i> ,			ŕ
904	9.23,75	8.42,66	8.23,73	6.40,63	7.32,58	3.68,57	7.27,73	50.55
906	8.51,59	6.44,50	10.14,63	9.71,68	7.58,57	3.39,68	8.07,58	53.84
762	8.70,33	7.75,26	10.92,34	5.49,48	11.65,37	10.39,55	7.81,31	62.7
MEAN	8.81,56	7.54,47	9.76,57	7.20,60	8.85,51	5,82,60	7.72,54	55.70

Table 8

Average Number of Hours and Percentage of Observed Time for Engaged Time by Period for Mathematics Skills

Only of many	•		Pe	eriod (Hours,	<b>%</b> )			Total
School Type and Number	A	В	С	D	E	F	G	Hours
	<del>                                     </del>							·
IGE/DMP								į,
440	10.50,60	10.46,62	3.26,41	9.16,52	8.10,45	3.62,66	15.33,56	60.43
593	9.29,77	8.87,72	3.46,91	10.88,67	10.50,66	7.64,63	4.61,61	55.25
MEAN	9.90,69	9.66,66	3.36,66	10.02,60	9.30,56	5.63,64	9.97,58	57.84
IGE/Non-DMP								
428	12.03,83	8.44,85	3.09,63	10.45,72	9.84,71	7.02,72	10.64,71	61.51
333	3.34,74	12.08,71	7.60,64	5.59,71	6.70,72	2.66,56	9.93,73	47.90
MEAN	7.68,78	10.26,78	5.34,64	8.02,72	8.27,72	4.84,64	10.28,72	54.70
Non-IGE/DMP								·
905	8.70,71	7.00,56	7.36,65	8.00,70	6.61,60	6.00,67	6.74,59	50.41
906	11.15,74	10.18,66	5.48,65	10.50,59	10.63,62	6.63,60	9.13,51	63.70
MEAN	9.92,72	8.59,60	6.42,65	9.25,64	8.62,61	6.32,64	7.94,54	5 <b>7.</b> 06

Table 9

Average Number of Hours and Percentage of Observed Time for Non-engaged Time by Period for Reading Skills

			Pe	riod (Hours,	<b>%</b> )			· Total
School Type and Number	A	В	С	D	E	F	G	Hours
IGE/WDRSD			•	·		·		
466		0.48, 3	4.13,33	2.05,24	2.50,28	3.93,22	1.93,34	15.02
451	2.33,16	0.82,16	0,49,20	0.53,22	1.50,19	2.01,28	2.17,31	9.85
476	1.28,18	1.66,24	2.26,35	1.17,17	1.98,30	0.98,23	1.72,25	11.05
507	4.33,29	2.37,19	3.88,26	3.86,22	5.37,29	3.18,20	1.44,13	24.43
MEAN	1.98,16	1.33,17	2.69,28	1.90,21	2.84,26	2.52,23	1.82,26	15.09
IGE/Non-WDRSD			,					
372	5.78,22	7.90,18	8.39,15	13.49,36	7.12,30	5.62,20	12.08,26	60.38
410	4.20,27	1.85,31	4.32,24	4.65,18	1.90,15	2.61,15	3.67,15	23.20
493	1.49,12	1.80,11	1.80,11	1.64,15	3.02,13	0.64, 7	1.32, 8	11.71
MEAN	3.82,20	3.85,20	4.84,17	6.59,23	4.01,20	2.96,14	5.69,17	31.76
Non-IGE/WDRSD								
900	0.36, 3	0.28, 4	-	0.81,14	1.44,19	0.63,16	0.72,12	4.24
902	0.31, 8	0.57,18	0.84,10	0.06, 1	0.55, 9	1.50,19	0.72, 9	4.55
901	2.06,17	2.70,25	10.36,41	6.43,33	4.52,35	3.12,33	3.68,24	32.87
903	3.52,46	1.78,37	4.10.41	_	1.93,26	0.52, 7	3.08,32	14.93
MEAN	1.56,19	1.33,21	3.82,23	1.82,12	2.11,22	1.44,19	2.05,19	14.15

Table 10

Average Number of Hours and Percentage of Observed Time for Non-engaged Time by Period for Reading Skills

Grade 5

School Type			Pe	eriod (Hours,	<b>%</b> )			
and Number	A	В	С	D	Е	F	G	Total Hours
			Non-engag	ed - Waiting				
IGE/WDRSD		۲.						
466	_	0.46, 9	1.52,16	1.14,19	-	2.55,21	1.77,16	7.44
451	1.96,20	2.38,21	<b>-</b> ·	0.37,12	2,92,26	2.34,21	2.19,20	12.16
476	1.59,14	0.83, 8	0.93, 8	0.58, 6	1.42,17	0.85,13	2.55,22	8.75
507	3.60,24	0.85,13	2.81,19	1.47,14	0.98,14	0.25, 4	1.41,36	11.37
MEAN	7.15,14	4.52,13	5.26,10	3.56,12	5.32,14	5.99,15	7.92,24	39.72
IGE/Non-WDRSD								
372	4.11,18	3.44,16	6.18,18	4.39,18	5.81,25	2.38,14	3.37,14	29.68
410	2.25,21	0.93, 8	0.31, 2	0.89,10	0.10, 1	0.76, 6	1.39, 5	6.63
493	1.53,17	1.53, 5	2.51,13	1.76,21	2.09,14	0.52, 5	0.20, 2	10.14
MEAN	7.89,19	5.90,11	9.00,13	7.04,16	8.00,14	3.66, 9	4.96, 7	46.45
Non-IGE/WDRSD					!			
900	1.57,19	1.50,15	-	1.54,17	2.56,22	2.87,53	2.43,27	12.47
902	0.86,18	0.68,17	0.86,10	0.25, 4	0.60,11	0.99,12	0.75, 8	4.99
901	4.25,32	0.65, 6	3.45,17	2.00,22	4.33,22	1.65,21	1.60,14	17.93
903	1.81,36	2.96,42	2.29,32	-	1.28,13	1.14,15	1.17,12	10.65
MEAN	8.49,26	5.79,20	6.60,15	3.79,11	8.77,17	6.65,25	5.95,16	46.04

Table 11

Average Number of Hours and Percentage of Observed Time for

Non-engaged Time by Period for Mathematics Skills

			Pe	riod (Hours,	<b>%</b> )			· •
School Type and Number	A	В	С	D	E	F	G	Total Hours
							<b>T</b>	·
IGE/DMP				·				
440	3.38,31	2.65,24	2.35,30	3.05,33	2.78,29	1.19,34	3.44,22	18.84
593	3.98,24	5.12,29	1.67,31	6.98,33	3.77,23	2.16,19	2.50,21	26.18
MEAN	3.68,28	3.88,26	2.01,30	5.02,33	3.28,26	1.68,26	2.97,22	22.51
IGE/Non-DMP								
428	1.13,23	0.82,16	0.65,26	1.08, 9	0.91,12	1.15,18	1.24,17	6.98
421	2.40,21	2.87,24		4.30,41	4.32,44	3.52,34	3.25,46	20.66
333	2.35,25	5.03,43	2.24,20	1.17,20	0.97,14	2.66,26	1.32,14	15.74
MEAN	1.96,23	2.91,28	0.96,15	2.18,23	2.07,23	2.44,26	1.94,26	14.46
Non-IGE/DMP								
904	2.89,24	2.92,23	1.64,14	2.03,20	2.25,18	1.74,27	2.40,24	15.87
906	5.14,35	1.40,11	4.67,29	3.50,25	4.73,36	1.55,31	4.96,35	25.95
762	5.28,20	4.42,15	6,46,20	3.08,27	9.00,28	3.65,19	2.74,11	34.63
MEAN	4.44,26	2.91,16	4.26,21	2.87,24	5.33,27	2.31,26	3.37,23	25.48
50								51

Table 12

# Average Number of Hours and Percentage of Observed Time for

Non-engaged Time by Period for Mathematics Skills

Grade 5

			Pe	riod (Hours,	%)			
School Type and Number	A	В	С	D	E	F	G	Total Hours
				1			1	
IGE/DMP								
440	4.03,23	5.38,32	2.86,36	7.41,42	8.02,45	1.84,33	9.92,36	39.46
593	1.10, 9	1.14, 9	0.17, 4	3.41,21	2.29,14	1.73,14	1.40,18	11.24
MEAN	2.56,16	3.26,20	1.52,20	5.41,32	5.16,30	1.78,24	5.66,28	25.35
IGE/Non-DMP								
428	2.36,16	1.41,14	0.76,16	1.40,10	3.43,25	2.45,25	2.21,15	14.02
333	1.16,26	3.45,20	2.55,21	2.45,31	1.40,15	1.13,24	3.6,27	15.83
MEAN	1.76,21	2.43,17	1.66,18	1.92,20	2.42,20	1.79,24	2.95,21	14.92
Non-IGE/DMP	,							
905	2.05,17	1.51,12	2.50,22	2.12,19	4.14,38	2.11,23	2.70,23	17.13
906	3.41,23	4.17,27	1.95,23	6.00,34	5.08,30	2.39,22	7.10,39	30.10
MEAN	2.73,20	2.84,20	2.22,22	4.06,26	4.61,34	2.25,22	4.90,32	23.62

#### Notel Number of Hours and Percentage of Allocated Time by Period for 12 Reading Skills General Objectives

Grade 2

Content code and flow right recolliouss, 33

NAC A S	t An i.e. e en Consonant e	in the Anti-server Vower	Point Analysis Solent Letter	g of the C Anisator	S capalary Seanana	а Мар (жэт) -	tight will Talker (Need	sufere se Killer	8 1 1 2 2 = 1 20 1 281 2 2	1475 1 4 Model 143 Angles	15 Fassar Meaning Skills	li Liotal Scadino	Total Allo, sted Time (Hows)
	·		· · · · · · · · · · · · · · · · · · ·			Peri	od A						
S 1.5 WHASE					,	,							
41.00	-	-			-	-	-	-	<b>-</b>	-	-	-	-
4×±	-	4. 7,32	8.02,54	-	<b>-</b>	<b></b> -	-	-	-	_	-	-	12.72
476	4.09,58		-	2.23,31	-	-	-				-	-	6.32
	1.78,12	3.94,26	<b>-</b> '	-		-	0.06, 0+			4.52,30	4.02,27		14.32
Miss %	1.96,23	2.88,19	2.67,18	0.74,10			0.02, 0+	:	•	1.51,10	1.34, 9		11.12
. G. N.I WDRST													
	1.88, 7	4.19,16		3.64,14	.16, 1			.94, 4	.92, 3	1.52, 6	2.47, 9	8.76,33	24.48
4.	.32, 2			1.69,11	<b>8</b> 40			.18, 1	6.96,45	1.09, 7		5.34,34	15.58
4.5	4.26,35	-		2 .50 21				. 50, 4		-	.43, 4	1,53,13	9.22
w <sub>ear</sub> %	2.15,15	1.40, 5		2.61,15	0.05, 0 <sup>+</sup>			0.54, 3	2.63,16	0.87, 4	0.97, 4	5.21,27	16.43
Nome Con Visite		,											
	_	_	_		1.83,15	8.94,73	-	_	-	-			10.77
٠.	.46,12	.07, 2		-	.23, 6	.93,25	-	-	-	-	-	.83,22	2.52
ì	_	4.26,36		-	.55, 5	3.05,26	-	_	-	-	1.83,15	. 30, 2	9.98
<b>♦</b>	-	-	-	5.04,66	-	-	-	_	-	-	2.33,31	<b>400</b>	7.37
63	0.12, 3	1.08, 9		1.26,16	0.65, 6	3.23,31					1.04,12	0.28, 6	7.66

# in test of it and hes tipt:

- j. ( ) 16 . ma - 1	r North Control	No de la companya de	For E	graphy (* 3.50) Marky	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Mag (Hosel)	Table Seat	And the second	00-1-1-10 mm	error Molecula November	1 Two laste Melanumit entitle	i to the Seatthan	Erra. Viscosto i Toma (Hours)
						Port	ot C						
Cate Works !!													
460		9.87, 79								]			9.87
4%.		2.50,100								j	1,		2.50
476	:   3.47,53			2.60,40									6.07
	4.13,28			2.02,14			2.29,16		0.07, o <sup>t</sup>	2.43,17	2.43,17		13.37
Meran	1.90,20	3.09,45		1.16,14			0.57, 4		0.02, 0	0.61, 4	0.61, 4	*	7.95
eut Noor Winesd										1			
6.5	5.66,10	10.02,18		.73,12	2.49, 4	0.28, 0		1.63, 3	4.63, 8	0.30, 0	2.59, 5	12.18,22	46.51
••	0.78, 4	0.65,4		0.12, 1					2.07,12		8.31,46	5.47,30	17.50
4 15	1.61, 9			1.35, 8	0.37, 2				1.25, 7	0.20, 1	0.64, 4	4.66,27	10.08
Meran	2.68, 8	3.56,7		2.73, 7	0.99, 2	0.09, 0		0.54, 1	2.65, 9	0.17, o <sup>+</sup>	3.85,18	7.44,27	24.70
% on (1 व जा के 1													
<b>14</b> , 1	_	_	-	_	-	_	-	-	-	_	-	-	-
٠.,			•		1.58,19	1.53,19	1.20,15						4.31
		9.26,36						0.80, 3	3.19,12		1.03, 4	7.37,29	21.65
56		8.00,81											8.00
<b>U</b> U Ma		5.75,3			0.53, 6	0.51, 6	0.40, 5	0.27, 1	1.06, 4		0.34, 1	2.46,10	11. 32
		1	I	1	1	l			<u> </u>	<u></u>	1	<u> </u>	1

Contest code and besites that

md	[50.6]	ţ	1 j	٠	ı	:.
(H	our s	,	•	1		
		_	-	_	-	-

Previous v Nome of	And Tally Services And Tally Services Control Branch	App. 1 Norweg	P A. (12 - 2 ) (11 ) . Letter	na Marian Marian	too dalari Memilia	Марсека сез	at of the state of the Table 1 to the state of the state	actores. Skills	with Modern the Skills	dorten e Moaning UKills	11 Indual Meananet Evallo	eranta. Readina	letil Alimeshmu Tame (Moure)
						Per	tod B						
THE WINSON													
₽£5€5				4.40,78									4.40
<b>4</b> 5.1										·	3.93,74		3.93
476		6.57,94											6.57
	7.32,59			4.58,37							·		11.90
Mesin	1.83,15	1.64,24		2.24,29							0.98,18		6.70
Laborate WORSE													
	2.50, 6	8.85,21		2.00, 5	1.93, 4	0.50, 1		0.63, 7	3.05, 7	1.82, 4	0.93, 2	10.02,24	32.23,
											4.80,80	1.20,20	6.00
\$14 B	1.12, 7		0.46, 3	1.01, 6	1.55 9					0.46, 3	1.42, 8	7.98,48	14.00
	1.21, 4	2.95, 7	0.15, 1	1.00, 4	1.16, 5	0.17, 0	<b>+</b>	0.21, 0	1.02, 2	0.76, 2	2.38,30	6.40,27	17.41
to state vaket													
•			3.33,44									1.35,18	4.68
177	0.50,16	1.22,38			1.16,36								2.88
1.		1.14,11		0.17, 2	0.43, 4			0.42, 4			2.09,20	3.96,37	8.21
• •		4.79,10		·					و دو سيو هيو هو				4.79
IC 5	1			0.04, o	0.40,10			0.10, 1			0.52, 5	1.33,14	5.14

Content Color and Charles

(Hours,

	· · · · · · · · · · · · · · · · · · ·	en de la companya de	State of Sta	Note that the second	en e	en and the	Maj Ski .	1 if a	Este for a Security	Wight Mean Constitution (Constitution (Const	1 ************************************	The product of the pr	icon y a . Read y	All waters me (Hours)
*******							Peri	od F						
•	K #7831	1. <b>1</b> 1,13	<b>1.</b> 13,13									3.90,45		6.14
						1.64,68								1.64
	476				5.80,87									5.80
			10.65,60				1.46, 8	3.63,20					,	15.74
	W W	0.28, 3	2.94,18		1.45,22	0.41,17	0.36, 2	0.91, 5	:			0.98,11		7.33
	1 1.17 1 1.17							)						
	-	7.11,19	3.48,9	/	2.94, 8	3.01,8			2.02, 5	5.29,14	1.11, 3	0.82, 2	6.14,16	31.92
			1.09,4		3.06,12	0.83, 3				2.17, 8	4.13,16	4.52,18	9.03,36	24.83
	.; •	1.84,17	0.97,9		0.40, 4	0.18, 2				0.44, 4	0.18, 2	0.36, 3	4.00,37	8.37
	11-35	2.98,12	1.85,8	•	2.13, 8	1.34, 4			0.67, 2	2.63, 9	1.81, 7	1.90, 8	6.39,30	21.71
ic.	ong a¶ og Pg€ og s													
	<b>,</b> .			3.46,59		 								3.46
	·	4.67,90												4.6/
	•	ļ	4.31,22		0.14, 1		0.34, 1		1.30,7	1.88,10		4.43,23	4.86,25	17.06
0	; · ·	1.56,30	1.44,7	1.15,20	0.05, 0 <sup>†</sup>		0.05, o <sup>t</sup>		0.43, 2	0.63, 3		1.48, 8	1.62, 8	8.40
0 IC	1144.													

£

E LOS

consent de and hespress consent consen

* 2.5	And the desired	And a second	onal Smal Setter	in the second	V Origina Market	May (*1.1	Alizo Africo	1610	was Wester was walks	serre il c Mestrary Skills	11 Talloute Moderatia Skillou	i. Singlika Readina	7 to. Allocated Time (Hours)
						Per	tod G		T				
the world	ŀ								1.				
41,1	5.81,33	0.95, 5			t.		İ			0.36, 2	6.01,34		13.13
** (		2.33,32								1.20,17	2.35,33		5.88
476				4.19,97								1 ! !	4.19
•		8.96,56				2.49,15	4.06,25			{			15.51
Мечал	1.45, 8	3.06,23		1.05,24		0.62, 4	1.02, 6		-	0.39, 5	2.09,17		9.68
- 4. Ч. ч ИОВ. 1.													
. *	1.34, 5	3.88,14		4.62,16	1.84, 6	0.30, 1		0.14, 0 <sup>†</sup>	3.33,12	1.03, 4	2.93,10	4.62,16	24.03
	0.05, 0 <sup>†</sup>				1.55, 9				2.24,13	0.66, 4	9.59,54	3.01,17	17.10
1.05	0.69, 8	1.25,14		0.06, 1	2.14,24					0.06, 1	0.52, 6	3.08,34	7.80
tean	0.69, 4	1.71, 9		1.56, 6	1,84,13	0.10, 0		0.05, o <sup>+</sup>	1.86, 8	0.58, 3	4.35,23	3.57,23	16.31
• , • . • t.													
14						0.36, 9	0.83,22		0.56,15				1.75
1.2		1.95,24		3.93,49									5.88
٠.				3.55,38	1.03,11					2.18,23	0.69, 7	1.05,11	8.50
, ,											5.64,77		5.64
V. ,		0.49, 6		1.87,22	0.26, 3	0.09, 2	0.21, 6		0.14, 4	0.54, 6	1.58,21	0.26, 3	5.44
62										<u> </u>	]		

65

ntent si

	\$ 1	λ	A (1) 1	i i et e Avec		Carl Av.	a (c. 1) (c. 1)	as fitters	· · · · · · · · · · · · · · · · · · ·	Section 1	Marani Marani	oleti Prii. u	Lista National List Wellington	
- E - K		<u> </u>	i			Per	rod 1							
4 · c	3.81,42			1.25,14						0.77, 8	1.30,14		7.13	
··.				0.42, 5	5.81 <b>,7</b> 3								6.23	
476			,	6.14,95									6.14	ı
										2.41,13	15.57,84		17.98	
Моле	0.95,10			1.95,28	1.45,18					0.80, 6	4.22,24		9.37	
. d % r - <b>a</b> " k.														
	2.34,10	1.82, 8		3.37,14	1.46, 6			0.18, 1	4.04,17	2.04, 9	1.67, 7	3.95,17	20.87	
,	1.90,15	0.30, 2		1.20,10		0.85, 7		i	0.40, 3		4.55,37	2.15,17	11.35	,
; •	1.66, 7	1.35, 6	0.36, 2	2.19,10	1.53, 7				1.30, 6		0.87, 4	9,34,41	18.60	
·. ,	1.97,11	1.16, 5	0.12, 1	2.25,11	1.00,4	0.28, 2		0.06, 0	1.91, 9	0.68, 3	2.36,16	5,15,25	16.94	
to that														ı
,	1.42,19		0.28, 4	1.41,19			2.89,38						6.00	
,		2.39, 4		1.98,34									4.37	
64			i	1.19, 9 5.62,77	1.17, 9					1.11, 8	4.07,31	3.78,29	11.32 5.62	
<b>a.</b>	0.36, 5	0.60,10	0.07, 1	2.55,34	0.29, 2		0.72,10			0.28, 2	1.02,8	0.94, 7	6.83	

Content : icand In : ix; \*
(Hours, %)

tokomi tokomi Noraki	Vision of the state of the stat	n ( ) 33 An ( ) -1 Nowel	At 3	turitus Ameri	the Alexander	Majo Skiris	topic Ca Catar okuse	N. 15 (1) 15 44 45	was North	Active of Control of C	11 des des Medicanst System	e ne tal. Le d i vi. i	Total (A) (Hours)
						Peri	oxi [						
14 W 22					•					:			4 00
414	1.65,29	0.83.14									2.45,43		4.93
	2.43,35											4.34,62	6.77
476	4.13,60	2.43,35											6.56
Ø 1	1.13,10			0.44, 4		5.88,54	2.08,19						9.53
<b>Y</b> ear:	2.34,34	0.82,12		0.11, 1		1.47,14	0.52, 5				0.61,11	1.09,16	6.95
. N - N - N - 2880W													
·	4.48,10	9.89,21		5.21,11	0.35, 1			0.53, 1	5.05,11	0.44, 1	3.84, 8	9.13,20	38.83
<b>.</b> .	0.26, 1	1.17, 5	0.50, 2	0.21, 1	0.99, 4		1.10, 5		1		7.31,31	1	
101	0.64, 4	0.25, 1		0.51, 3		p.24, 1	0.13, 1		0.84, 5	1.25, 7	0.18, 1	8.59,51	12.63
<sup>ss</sup> re.an	1.79, 5	3.74, 9	U.17, 1	1.98, 5	0.45, 2	0.08, 0+	0.41, 2	0.29, 1	3.55,12	0.60, 3	3.78,13	7.94,32	24.77
4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -													
•				5.16,86									5.16
٠.	0.28, 4			1.20,15		4.17,53					,		5.65
٠,		0.46, 3		1.33, 9	1.32, 8	İ	,					4.50,29	11.60
f	-	-		_	_	_	-	-	-	8.49,88			8.49
$y_{i+1}$ ,	1.07, 7	0.12, 1		1.92,28	0.33, 2	1.04,13	1			2.12,22		1.12, 7	7.72
SC							1						

### Total Number of Hours and Percentage of Allocated Time by Period for 12 Meading Stills General Objectives Grade 5

Hours, 1

s se se Negot			3 / S		1	1 · · · · · · · · · · · · · · · · · · ·	n i	5 (1.42 (1.46) 96 (1.44)	<b>υ</b> 1		* ** * ± + = = = = = = = = = = = = = = = = = =	A transfer of the second	10 (2 (1 (4 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1	The states Meanwhite World I	enterior School vic	A,
	· · · · · · · · · · · · · · · · · · ·								i - 1 - 1	ord A						
14 8 BC		Ī														
400	-		***		<b>-</b> ·			-			-	-		<b></b>		-
į											1.55,16	7.19,75			,	8.74
į	l .	1	•	1			,		10.56,94							10.56
476			•								. 40 50					<b>1</b> 3.59
									6.17,41 5.58,45		7.42,50	2.40,25				10.96
Meran	!				*			,	5,56,45		2.99,22	2,40,23				201,00
TAPAS = MURITA																
	1.26, 5	1	L.86,	8	0.38, 2	2.74	,12	1.22, 5	0.05,0		0.72, 3	1.30, 6	0.53, 2	3.79,16	6.16,27	20.01
• •									0.73,7		2.36,22	1.88,18	2.13,20		3.39,32	10.49
1 /						0.56,	, 6				4.02,44				2.95,32	7.53
"war	0.42, 2		).62,	3	0.13, 1	1.10	, 6	0.41, 2	0.26, 2	•	2.37,23	1.06, 8	0.89, 8	1.26, 5	4.17,30	12.68
										:				 		
5 5 5 3 20 5 4								]								
,										3.37,40	3.97,47					7.34
									3.33,70		0.15,3					3.48
											9.34,70				2.52,19	11,86
'				Ì							2.34,10			4.94,99		4.94
'										<u> </u>					0.62	
٠,									0.83,18	0.84,10	3.36,30			1.24,25	0.63, 5	6.90

68

32

ntent b and but

**************************************	Acceptant	Such a such as a	Act of	in the same	15 (164) 15 (164)	May 1 K S V	or of the first of	\$1.50 mm	William Skiller	Menatter State	Meanuret KFIT	ert of the Eq. (4.1)	Total Nilogram Tome (Hourse)
						Per	kod B						
i + w + .				1.90,36		1.57,30	0.42, 8		0.28, 5				4.17
: .			, , !					5.72,51			3.88,35		9.60
476						2.46,25	2.67,27				1	0.56, 6	5.69
1						l .	0.83,13				1.39,21		4.34
<b>Ч</b> от				0.48, 9		1.54,22	0.98,12	1.43,13	0.07, 1		1.32,14	0.14, 2	5.95
La Nor- Mack					·								
	0.86, 4	0.53, 2		0.88, 4	0.26, 1			1.72, 8	3.95,18	0.64, 3	2.98,14	5.88,28	μ7.70
		0.05, O						0.57, 5	1.39,12	0.50, 4		8.85,77	11.36
4 - 1									2.72,16		1.05, 6	5.96,36	9.73
de 4:	0.29, 1	0.19, 1		0.29, 1	0.09, 0			0.76,14	2.69,16	0.38, 2	1.34, 7	6.90,47	12.93
North Participation													
,							0.85, 8	6.09,62					6.94
٠.						ļ }	0.07, 2		3.27,84				3.34
		 					3.10,30		2.40,23		0.29, 3	2.31,22	8.10
a. 1											7.05,99		7.05
ote y .	70						1.00,10	1.52,16	1.42,26		1.84,26	0.58, 6	6.36

1.

Content of the following the f

0 - 612 Noma e 2	trono Anno Cotto North		Ar ()	toft Nation	All officers of a second	Max of Rosa	the of the ork		Wild Villey Comments	Let for the second seco	Modrison	00 (20 % %) 26 (\$ \$2 %)	for a start a comment of the comment
						Per	riod '						
LIE MUNES!													
\$100				5.64,59		<b>\</b>							5.64
i' i	•	-		<b></b>	-	-	-	-	-	-	_	-	
476							1.84,15					2.80,23	4.64
									2.96,20	0.50, 3	9.64,65		13.10
٠.	<u> </u>			1.88,20			0.61, 5		0.99, 7	0.17, 1	3.21,22	0.93, 8	7.79
Met 11													
. 1 4 ! -													
4° (K.√	2.05.0	1 10 4		1.79, 5	0 50 2			2 92 9	2 87 8	 	1 49 4	13.30,40	28.31
1	3.05, 9	1.19, 4								ļ	1		<u> </u>
4.			Į	2.52,19	0.50, 4	0.67, 5			2.82,21		ł	3.12,23	
1 +7						_		1.06, 8	<u>l</u>	1		6.38,49	
le di	1.02, 3	0.40, 1		1.44, 8	0.36, 2	[0.22, 2]		1.35, 6	1.90,10 	[0.37, 1]	2.21,14	7.60,37	16.87
					<u> </u>								
N 1 1 4'													
•	-			-	-	-	-	-	-		-	-	-
						3.12,36		1.80,21					4.92
1		0.22, 1		4.00,20				5.09,25	1.67, 8		2.39,12	3.04,15	16.41
,											6.50,91		6.50
		0.07, 0		$\frac{1.33, 7}{1.33}$		1.04,12		2.30.15	0.56, 3		2.96,34	1.01, 5	1
<b>V.</b>		]							]			"	

and besit it is the flours, the flours, the flours, the flours, the flours of the flow of the flours of the flow of the flours of the flours of the flours of the flours of the flours of the flours of the flours of the flours of the flours o

	Also Company	AC 1	Action to	Post No. 4 a v	a a di la e Na mang	Maj ikili	ing the second of the second o	# 1475 AV	acti Mense ing (Kisis	i Santan in S Melarian I SKNII s	11 14 - 44 + 20 arrana + x x 11 +	och tal Maa tig	Dita Allication Time (Hours)
						Fer	q bor				Υ	1	1
ta words													
‡isti		0.94,16		1.81,30							0.90,15		3.65
451				0.70, 7				2.30,72					2.30
476									1.40,14		5.44,56	1.47,15	9.01
					<u> </u>		4.50,42	3.18,30			1		7.68
' '		0.24, 4		0.63, 9			1.12,10	1.37,26	0.35, 4		1.58,18	0.37, 4	5.66
Mean			:										
14 % %+													
C AGW													01 01
3 7	0.28, 1	0.50, 2		2.37,10	0.65, 3		0.06, 0+		i i	ř		L .	
٠.		,						2,33,26	1,39,15		0.72, 8	1	ļ
4 + 5									1.58,19	l	<u> </u>	5.30,64	<u> </u>
%e m	0.09,0	0.17, 1		0.79, 3	0.22, 1		.02, o	1.18,10	2.52,18	0.05, 0	0,76, 5	6.33,49	12.13
te syktot græten						]							
g-)						5.04.56	2.90,32					ļ	7.94
9 . <sub>6.</sub>								 			3.56,61		3.56
						0.75, 8		6.00,65					6.75
• .						V.73, 8		0.00,00					0.73
<b>(</b> € 10.50)	****		_	_	_		-	-	_	_	-	_	_
<b>%</b> (+) ; :	74		Ì			1 02 21	0.97,11	0 00 22			1.19,20	1	6.08

c defend code
cyclical code;
(Hours, \*\*)

n 10 1 1 . the professional displaying the Acres . . . Section 11.7 Me attack N: :. (Hours ) 3.35,30 10.46 7.11,65 5.58,67 7.85 2.27,27 476 6.61 6.61,94 2.20,31 2.37,22 0.76, 9  $M_{\rm V}/425$ 2.98.33 8.31 1 5 5 5 V B  $\begin{vmatrix} 1.32, 6 & 4.19, 18 & 0.10, 0 \end{vmatrix}$  2.72, 12 8.04, 35 20.73 2.83,12 0.53, 2 0.47, 2 0.53, 2 0.28, 4 0.72,10 7.15 1.70,23 4.45,61 •: |1.00, 7|1.11, 8|3.52, 24|7.50, 52|13.13. . 1.01,10 3.21,29 0.40, 3 2.17,13 5.42,32 13.67 0.94, 4 0.18, 1 0.18, 1 0.16, 1· 1.. 7.33 [3.00, 26]4.33,38 3.06 3.06,55 0.42, 2 6.80, 35 17.83 3.56,18 7.05,37 76 0.48, 5 7.11,74 7.59 0.89, 4 2.51,16 0.12, 1 1.88,19 1.70, 9 8.95 0.76,14 1.08,10

Content conparties state (Hours,

volte or so North C	A Comment	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	Action of the Control	1 1 September 1 Azertzki (* *)	Villaboration Metaboration	од Мар Кэліо	Tales of the second	4. † * * v *	with a Monday of Oddings	Senten ( Bound) (ki 18	The same Mear And Seal C	li omnetis Amading	totic. Allocates Come (Houry)
						Peri	iod f						<u></u>
the Wish	0.84, 7							3.33,30	0.44, 4		6.74,56 7.09,64		8.02 10.42
476											6.53,99	0.07, 1	
, 1~									5.36,78				5.36
Meran	0.21, 2							0.83, 8	1.45,20		5.09,55	0.02,0	7.60
LIG NOON MORSD													
: ',	0.75, 4			1.98,12		,			3.21,20				
+1.5				0.65, 6		ı			4.53,38	0.12, 1	1.62,14	4.07,34	10.99
493				0.60, 6	0.07, 1	2.10,19			1.79,16		0.67, 6	4.97,46	10.20
Melan	0.25, 1			1.08, 8	0.02,0	0.70, 6		0.35, 2	3,18,25	0.12, 1	1.33,10	4.72,37	11.74
territorial Maria													
r								4.97,92	1				4.97
<b>∓</b> c.,	0.07, 1						2.34,27		5.30,62				7.71
) ,		1					2.92,36		0.39, 5	0.19, 2	2.04,26	0.10, 1	5.64
4.4							}			1.20,16	4.95,65		6.15
Morro.	0.02, 0						1.32,16	1.24,23	1.42,16	0.35, 4	1.75,23	0.02, 0	6.12
	10	i	i	1	Ī	1	L	<u> </u>	<u> </u>	L	1	<u> </u>	

Content on and the tirts (Bours, t

er Navers	m The Alice Courts The Add of	No. of the Alexander	and Salar and	1 4 W 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Mad 1 to 1 to 1	patterns	(+ . + .	A P. M. P. S. S. S. S. S. S. S. S. S. S. S. S. S.	gert fan de Meiner ferste Skiller	CALLS OF Meaning of Mail Look	illion post of the first addition	(Hours)
					Per	10d %	<u> </u>			<u> </u>		
1 d - an Asis 400			1.40,13					6.09,55				7.49
+" ,							3.25,30			4.57,42		7.82
476				<b>!</b>		 	1.11, 9				9.46,81	10.57
						<u> </u>		3.73,96				3.73
$\mathbf{u}_{i \leftarrow i c_1}$			0.35, 3				1.09,10	2.46,38		1.14,10	2.36,20	7.40
, at the con- attribut												
,	0.12, 0 <sup>†</sup>			0.29, 1	0.70, 3		0.23, 1	7.28,30		1.27, 5	6.03,25	15.92
٠.							0.75, 2	4.75,16	0.23, 1	6.65,22	16.19,54	28.57
<b>(</b> ),											5.92,59	5.92
W - 304	<b>0.04,</b> ơ			0.10, o <sup>t</sup>	0.23, 1		0.33, 1	4.01,15	0.08, 0	2.64, 9	9.38,46	16.80
N + +1 A 8 + 4												
<b>)</b> ·						2.86,32	4.39,49					7.52
* .						2.00,22		4.61,52		0.06, 1		6.67
,			0.10, 1			2.05,18		3.90,35	0.99, 9	0.12, 1	1.50,14	8.66
·								2.08,21		6.79,69		8.87
Mr.			0.02, 0			1.73,18	1.10,12	2.65,27	0.25, 2	1.74,18	0.38, 4	7.86

Table 15

Total Number of Hours and Percentage of Allocatal Time
by Period for Mathematics General Objectives
Grade 2

ii (Hours, %)

												1
Contains Prince and Number	Writterin Numbers	Pegalette	Properties of Cauchy To Carlo System Composition of the Carlo	Addition Subtraction	Substantion	PE Enactions	Medicales mert	ekszel Problems	e parati (1)	is Some fire	11 Mi mas afterus	1013.
						Perio	od A			<del></del>	<del></del>	
: -C .MP								1	1			
;4)	3.30,30		0.93, 8					3.11,29	ļ	1.92,18		9.26
(4)		<u> </u>	l	7 60 /5		0.70,0		4.97,29	ļ			16.58
593	3.91,23			7.63,45					}			10.00
Mean	3.60,26		0.46, 4	3.82,22		0.35, 0 <sup>+</sup>		4.04,29		0.96, 9	./	12.92
					i i							
DE Non-	.					[						
						]						5.00
425	1		[2.50, 50]	2.50,50		]					10,24,9	10.2
421												
113				9.28,99								9.28
			0.83.17	3.93,50							3.41,30	8.17
Mean			0.03,17	3.75,50								
Non-13E DMP												
304					1			5.29,43	2.83,23	3.99,32		12.11
								10.78,74	2.41,17	0.44, 3		13.63
Чов				6 55 05				4.26,16		2.95,11		13.99
*6.7	0.23,			6.55,25					1.75,13	i		13.24
Mean	0.08,	0		2.18, 8				0.70,43	1.73,13	2,40,10		
			1								<u></u>	1

85

(Hours, 4)

											1.	1.1.
to orași Newska	terner Hamer		3 Transfer Transfer	Aratis Subtraction	t i tage La latage	*****	to the state of	arit Vioriteno		e per trit	Silver (1) Later (4)	
<u></u>						Pet t	od B					
t an love								·				
44.	1.58,15			2.14,20		]	•	2.95,27		3.04,28		9.7
	6.41,36	1.08, 6		4.13,23		5.12,29						16.7
Morator	4.00,25	0.54,3		3.14,22		2.56,14		1.48,14		1.52,14		13.2
IB Nore												
<b>4.</b> "		2.37,47		2.63,53								5.0
421				8.79,75							1.11, 9	9.9
				7.98,69						2.66,23		10.6
oterani		0.79,16		6.47,66						0.89, 8	0.37, 3	8.5
71												
Single de OMP												
(\$	3.93,31			3.31,26				4.10,32	2			11.3
<i>j</i> . i	4.99,38							2.83,22	2			7.8
N.,				10.24,3	4			1.21,		0.71, 2		12.1
	2.97,23			4.52,20				2.71,19	)	0.24, 1		10.4
The is	1				1						1	1

and the state of t

(Hours, 4)

Tric Met Kamber	White or Ramies	Includition	3 ther PI to stade of Sameration	- 4 Addition Subtraction	Us Multis (In ation	of Guartian	Medical Services	ar to frablem	n pinton	ĝ≀ « metri	% 1	7.2.1
						Peri	od C			1		
I d. 1989												
440	3.33,43			2.80,36				0.53, 7				6.66
,43				4.81,89				0.28, 5				5.09
Melan	1.66,22			3.80,63				0.40, 6				5 <b>.8</b> 8
IGE Non-												
<b>4</b> 2 m				0.86,34							1.58,63	2.44
421		-	-	-	-	-	-	-	-	-	-	10.41
1.65				10.41,9						Ì		1
Me in		·		5.64,64			,				0.79,32	6.42
gon-Lift age												
9:14	2.93,26	0.70, 6	,	6.13,54					ì			9.76
1.1,								14.81,9	3			14.81
	3.50,11		1.94, 6	7.65,24				4.17,1	3			17.26
767 Moati	2.14,12	0.23, 2	0.65, 2	4.59,26				6.33,3	5			13.94



(Hour - A)

To the Courts Numbers	Notation of Designation Numbers	2 Chien Place Calle in Non-thing	Add Circ Sabtriction	market A District	Tractor	2 20 - Alexandra Alexandra	West Drotterom	Again Park	esome Chy	e ja sala Varenta	Pot a
					Peri	iod D					
1 4 0 11 4 1 5 4 3	1.84,20		2.12,23 20.13,95			1.42,16	1.10,12 0.06,0 <sup>+</sup>		1.28,14		7.76 20.19
e. p.	0.92,10		11.12,60			0.71, 8	0.58, 6		0.64, 7		13.98
( F N · + ·											·
i.			3.16,26						2.06,17	4.35,36	9.57
,, i	0.27, 2	1.34,13	3.49,33		2.14,20						7.24
. ••			2.57,43		2,93,49					}   	5.50
Ma ar	0.09, 1	0.45, 4	3.07,34		1.69,23				0.69, 6	1.45,12	7.44
Ч г. Т.Э. ымы											
919 <b>4</b> .			5.10,50		3.33,33						8.43
1) į.	9.72,68		3.50,25								13.22
		1.04, 9	4.37,38	0.53, 5			2.52,22				8.46
N e	3.24,23	0.35, 3	4.32,38	0.18, 2	1.11,11		0.84, 7			] } 	10.04

હ

taki se a tera

(Hours, 1)

Solition Type and Cambor	orithma Windows	Pagality	Stuer Place Value of temeration	94 Addition Bubtriction	Multi- Hulti- Huution	Ut Fractions	the analysis in memb	yord Word Frablem	Appriations	10 work try	i. M. ole lanchus	f et a i
						Peri	od E					
131 (0M) 440	2.98,31			1.85,19			1.33,14					8.11
593 Metan	1.49,16			12.25,74 7.05,46			0.66, 7	2.56,16 1.90,14				14.81 11.46
IGE Non∗							,					
426	·	1.89,24		4.60,58								6.49
		:	2.10,22	3.00,31		0.74, 8				1.25,13	3.66,53	7.09 6.46
Metar			1.63,21	2.53,30		0.25, 3				0.42, 4	1.22,18	6.68
26 to 1.6E 1 OMP												
904		1.67,13		3.16,25		4.71,37						9.54
9.4			3,35,11	12.30,92 7.81,25	i					1.95, 6	6.73,21	12.30 20.25
76.2 The 47		0.57, 4	ł	7.76,47	1 .	1.57,12			Ţ	0.65, 2	Į.	14.03
										<u> </u>	1	

							(Hour	(, ()		 		
a A Leastbert	11	off with formal Manual a		3 10 - 4 - 4 40 1 2 - 28 1 15 2 - 5 - 4 - 4 - 15	State Comments	en Tiller General Communication	Tractions	n e des	a ti Tractore	 im tri	14 0 - 14 4 at et 23	1.01
							Peri	od F				
٠,	.e					}						
:45		1.52,43	0.33,	9 0.33, 9	1.06,30							3.
					7.13,63				2.70,24			9.8
.93	l	5 74 00	0.16	4 0 16 4	1				1.35,12			6.
$\mathbf{w}_{i^{\prime},j^{\prime}}$		0.76,22	0.16,	4 0.16, 4	4.10,40				1,33,12	•		
								·				
ii 5	.,-											
			0.39,	6	0.07, 1						3.32,52	3.
• •			0.39,	l	2.99,29				!		2.92,29	6.
42.	}			0.04, 0			1	,			ľ	
• • •				ł	2.69,26						6.73,65	l
Melan	:		0.13,	2 0.28, 3	1.92,19						4.32,49	6.
. 1 1												
DMI					5.42,83							5.
.•	<b>:</b>				3.42,03							4.
, ,		4.95,99	1								(0.04	ł
٠.					4.69,25	0.47, 2	0.74, 4	3.03,16			4.60,24	13.
		1 65 22			3 37 36	0.16, 1	0.25, 1	1.01.5			1.53, 8	7.
Se a		1.65,33	<b>'</b> ]		7.37,30	[,,10, 1	0.25, 1	1.04,5				

ERIC Full Text Provided by ERIC

Table 15 (continued)

into the state of the control of the

						(1117-02-9)						
times Type and Number	Winters	Programme (	l ruor Fla e Value or Numeration	04 Andrews Subtraction	UN Ma.ti- (lication	o6 Frantien.	o/ % ( unc = ment	्तन Word Problems	Approximations	1 / scometri	Mariana Mariana Tamensas	nota:
						Peri	od G		,		<del></del>	
195 Data												
140	2.63,17			7.46,49		1.10, 7	1.84,12					13.03
593	2.29,20			9.06,78							0.07, 1	11.42
	2.46,18			8.26,64	į	0.55, 4	0.92, 6				0.04,0+	12.22
Mean				, ,			•			1		
IGE, Non-										,		
425				3.17,43			ļ			1.93,26	0.56, 8	5.66
429				3.84,54		0.38, 5					2.04,29	6.26
421			}	1	!							7.79
335			<u> </u>	4.80,52	2.99,32							
Mean				B.94,50	1.00,11	0.13, 2				0.64, 9	0.87,12	6.57
												<u> </u>
Hon+15E/ DMP												
904		1.67,17	,					4.00,40			4.00,40	9.67
3.16	5.08,36			4.77,34				3.16,22	ľ			13.01
		1	1	5.69,23		2.85,11					1.27, 5	10.53
14,2				}	]			h 20 21			1.76,15	į.
Mean	1.69,12	D.56, 6	0.24, 1	3.49,19		0.95, 4		2.39,21			1.70,13	μ1.07
					ŀ	1	1	ł			<u></u>	1

94

rable lu

#### Average Number of Hours and Persentage of Available Time by Period for Mathematics General Objectives Grade <sup>7</sup>

September 6 Paragraph (1970)

(Hours, V)

No. No. No. and Number	Addition Addition	Marti-	. LVA + . A.	ora to an eer look of the	Itactions Computation	ou Decimal Fiactions-⇒ Concept	Dr. 1993 Fractionser Computation	Meanares ment	Witd Frigiums	Applications	li Hometry	12 Minuela Taneous	7. t t.
						Per	Lod A						
I off (DME)		•							l				
નંત .	2.87,16											1.02, 6	
١,,		,	10.37,8	6									10.37
Mean	1.44, 8	2,28,13	8.22,60									0.51, 3	12.44
Isk Son-							eş.						
I JE			13.89,9	4	p.42, 3							0.06,0	14.37
425			13.03,3		<b>5.42</b> , 3								
		2.00,44					0.25, 6				2.25,50		4.50
333		ŀ					<b>1</b>	Į.			l	0.03,0	9.44
. Muan		1. ?2	6.94,48		0.21, 2		0.12, 3				1.12,23		J. 11
loga=1 VE /													
<i>न</i> ा <b>ठ</b>		10,74,8	1					l I					10.74
90% 90%		14.58,			1	,							14.58
		12.66,9	2	Ì									12,66
96												1	



Content Code and testing for

(Hours, Š)

Type and Number	01 Addition Subtraction	Multi- plication	93 Division	04 Fractions=- Joncests	05 Fractions Computation	Ou Decimal Fractions == Concept	J7 Decimal Fractions Computation	08 Measure- ment	94 Word Problems	10 Applications	11 Geometry	12 Miscel- laneous	T ta.
						Per	iod B						
IGE/DMP							·			,			
440		1.96,12	9.04,53						3.87,23			0.94, 6	15.81
			7.00,56				3.00,24				ŧ		10.00
571		0 08 6	8.02,55	,	•		1.50,12		1.94,12			0.47, 3	12.90
Mean		0.90, 0	0.02,33				, , , , , , , , , , , , , , , , , , ,				,		
								,					
IGE/Non-													
475		0.38, 4	2.45,25									7.01,71	9.84
		·											
333		5.53,32	2.73,16	5							5.13,30	2.17,13	15.56
								]			2 56 15	4.59,42	12.70
Me in		2.96,18	2.59,20	)							2.50,15	7.33,72	
tion-17%							1	ļ					
DWF													8.52
±1) <b>5</b>		8.52,68			·							h 17 1	14.30
9.16		7.32,47	6.25,40	0.17, 1						0.39, 2		b.17, 1	14.30
		7.92,58	3.12.20	0.08,0						0.20, 1		0.08,0	11.41
Rear.		[ ., ., .,										1	

content Code and concentity n (Hours, %)

School Type and Number	ol Addition Subtraction	Martis Clication	C3 Civision	04 Fraction: ~- Concepte	O' Craction Computation	Ju Decimal Fractions Concept	O7 Ducima: Fraction:== Computation	95 Measarcs meht	Word Problems	1: Applications	11 Geometry	12 Miscel- laneous	Teta.
						Peri	od C						
ISE/DMP						4.				:	•		ı .
440	İ			2.20,28	1.56,20				0.67, 8	1.71,21			6.14
59H			·									3.63,96	
Mean			,	1.10,14	0.78,10				0.34, 4	0.86,10		1.82,48	4.88
	1									j			
I ii Non-			,										
426		1.40,28										2.33,48	<b>3.7</b> 3
333			5.86,49	1.17,10	1.33,11	1.24,10						0.57, 5	10.17
Mean				0.58, 5		t .	6					1.45,26	6.95
near:						] .			· .				
Mcn-T-E-1 DMC				1									
 १८ <b>ड</b>		0.44, 4	9.41,83	1									9.85
		0.33, 4			0.14, 2		0.28, 3	2.34.28					7.43
906		0.00, 4					,						
		0.38, 4	6.8867		0.07, 1		0.14, 2	1.17,14					8.64
Mean								,					

100 ERIC

Content Code and Description (Hours, %)

achool Type and Number	01 Add:tim Subtriction	Nuiti- Muiti- Vication	· ivi>ion	Fractions - Concepts	os Fractions Computation	Jó Decimal Fractions Concept	Decimal Practions Computation	OB Measure- ment	09 Word Problems	Applications	11 Geometry	Miscel- lancous	Total
						Peri	od D						
IGE 'DMP					·		·						
440	0.65, 4	1.34, 8	1.21, 7	9.05,52	4.36,25								16.61
503			-				14.05,86			·		0.22, 1	14.27
Mean	0.32, 2	0.67, 4	0.60, 4	4.52,26	2.18,12		7.02,43					0.11,0	15.44
mean													
IGE Non-		,				,							<u> </u>
4.20			1.11, 8			3.59,25	7.13,49				•		11.83
428			[										
	ļ		1.32.17	0.33, 4	3.62.46				2.53,32				7.80
333			Ì			1 00 12	2 56 24		1.26,16	· '			9.82
Mean			1.22,12	0.16, 2	1.81,23	1.80,12	3.30,24		1.20,10			1	
	1												
Hon-15D DMP						ļ				İ			10 12
).)5	į.	1.16,10	ł	ŀ									10.12 16.49
906	Ì	1.42, 8	3.52,20					7.06,40	2.42,14	1.96,11	U.11, 1		10.49
•													
Meati		1.29, 9	6.24,49			Ì		3.53,20	1.21, 7	0.98, 6	0.06,0		13.30
													<u></u>

ERIC Full Text Provided by ERIC

Contest 255 and Descriptions (Hours, %)

Sife of Type and Humisir	)l Additim Subtraction	Muit:- plicati s	:5 1V1~101,	74 Fraction: Consepts	ot Tractions== Computation	OC Decimal Fractions Concept	Dudima. Fractions- Computation	, 9 Melasarer merit	Wird Problems	10 Applications	II Geometry	12 Mi scel- Laneous	Tetr.
						Per	rod E						
Tori 'OMP													16.00
440			3.92,22	8.23,46 10.40,6		-	2.39,15						16.08 12.79
, 5014 Mear			1.96,1 <b>1</b>	9.32,56	1.96,11		1.20, 8						14.44
LuE (No )									 				
425			5.54,40	7.72,56								·	13.26
. 333					3.47,37				0.77, 8	·	3.88,42		8.12
Meran		,	2.77,20	3.86,28	1.74,18				0.38, 4		1.94,21		10.69
Non-13D1 DME										ę			·
30 <b>5</b>		h (a a		1	5.39,49						0.06,0+		10.73
906		0.49, 3	1.35, 8	1.096,64	2.44,14						,	,, <u> </u>	
Mer 47.		0.24, 2	0.68, 4	8.15,5	63.92,32						0.03,0	0.06,0+	13.07

Content Code and Description (Hours, %)

School Type ind Number	DIT Addition Subtraction	Muiti- plication	Division	04 Fractions Concept:	05 Fractions Computation	Ju Decimal Fractions Concept	07 Decimal Fractions Computation	os Myasure- ment	79 Word Problems	le Applications	11 Geometry	17 Miscol- Langous	[otul
						Peri	od F					7	
IOE/DMP									'				
440		0.32, 6		0.72,13	2.11,38							2.30,42	5.45
~91				9.37,78				·					9.37
Mean		0.16, 3		5.04,45	1.06,19	1						1.15,21	7.41
;			·										
IGE/Non-					·	ļ							
426		1.25,14	1.63,17	3.40,35	0.99,10		2.17,22						9.44
•								,					
333					0.78,16						1.57,33	1.45,30	3.80
Инап		0.62, 6	0.82, 8	1.70,18	0.88,13		1.08,11				0.78,16	0.72,15	6.62
												.,	
Hon-IBE/													
904					8.11,90			•					8.11
906	0.28, 2			3.61,33	4.20,38			0.92, 8					9.01
					•	1							
Mean	0.14, 1			1.80,16	6.16,64			0.46, 4					8.56
acan							ļ		ļ				

content 10 b and Described (Hours, %)

The and human	JI Addition Subtraction	)/ Multi- pricativa	Division ,	is automore Jones to	Fractistics Computation	96 Pedimal Practions=- Connept	Decembl Fractions Computation	Se Measures ment	Word Application Problems	s ivometi;	12 Miniel- Lanvous	;et.,
						Per	iod G			1		
Ise SMF				٠.								
44.1	0.35, 1	1.41. 5	3.14.12	8.18,30	2.45, 9			2.81,10		6.88,25		25.22
* 17	0,00, -	,	.,	3.04,40							/	6.02
	0.18,0+	0.70.2	1 57 6	5 61 35	2 72 24			1.40, 5		3.44,12		15.62
Syan *	0.10,0	0.70, 2	1.57, 0	3.01,33	2.72,24							
1 F Son-											,	
												12.79
425	1.04, 7	1.12, 8	1.34, 9	7.25,49	1.92,13		0.12, 1					12.73
									ŕ			10.00
1			İ		2.27,17		2.60,19			3.03,22	5.70,42	13.60
Wjar	0.52, 4	0.56, 4	0.67, 4	3.62,24	2.10,15		1.36,10		ļ	1.52,11	2.85,21	13.20
		<u> </u>		1								k 1
% p=1% DMC						}						
		1 00 0		3.45,30			2.55,22			2.33,20		9.42
9.14		1.09, 9			2.94,16		1	}		0.33, 2		16.20
9.26		0.96, 5	,, 0.1/, 1	. 13.33,30	12.94,10	2. 55, 14	7.77,22					
			.				2/ 22			1.33,11		12.8
8 Mean		1.02, 8	0.08,0	4.39,30	1.47, 8	$\mu.26, 7$	B.24,22			μ. ,,,,,,		
-				}			]	1			<u> </u>	

ERIC Full Text Provided by ER

### References

- Nerenz, A.G., & Webb, N.L. Content aggregations for reading skills and mathematics for the comparative study of Phase IV of the IGE Evaluation Project.

  Project Paper No. 80-3. Madison: Wisconsin Research and Development Center for Individualized Schooling, 1980.
- Otto, W. The Wisconsin Design: A reading program. In H.J. Klausmeier, R.A. Rossmiller, and M. Saily (Eds.), <u>Individually guided education: Concepts</u> and practices. New York: Academic Press, 1977.
- Romberg, T.A. DMP: The elementary mathematics program for individually guided education. In H.J. Klausmeier, R.A. Rossmiller, and M. Saily (Eds.),

  Individually guided elementary education: Concepts and practices. New York:

  Academic Press, 1977.
- Romberg, T.A., Webb, N.L., Stewart, D.M., & Nerenz, A.G. <u>Design for the com-</u>

  parative study of reading skills and mathematics curriculum products of

  the IGE Evaluation Project. Project Paper 80-2. Madison: Wisconsin Research

  and Development Center for Individualized Schooling, 1980.
- Venezky, R., & Pittelman, S. PRS: A Prereading skills program. In H.J. Klausmeier, R.A. Rossmiller, and M. Saily (Eds.), <u>Individually guided elementary education</u>:

  Concepts and practices. New York: Academic Press, 1977.
- Webb, N.L., & Romberg, T.A. The design for the study of reading skills and mathematics curriculum products IGE Evaluation Project--Phase IV. Project Paper 79-42. Madison: Wisconsin Research and Development Center for Individualized Schooling, 1979.



# Center Planning and Policy Committee

Richard A. Rossmiller Wayne Otto Center Co-Directors

Dale D. Johnson Area Chairperson Studies in Language: Reading and Communication

Marvin J. Fruth Area Chairperson Studies in Implementation of Individualized Schooling Penelope L. Peterson Area Chairperson Studies of Instructional Programming for the Individual Student

James M. Lipham
Area Chairperson
Studies of Administration and
Organization for Instruction

Thomas A. Romberg Area Chairperson Studies in Mathematics and Evaluation of Practices in Individualized Schooling

# **Associated Faculty**

Vernon L. Allen Professor Psychology

B. Dean Bowles
Professor
Educational Administration

Thomas P. Carpenter
Associate Professor
Curriculum and Instruction

W. Patrick Dickson Assistant Professor Child and Family Studies

Lloyd E. Frohreich Associate Professor Educational Administration

Marvin J. Fruth
Professor
Educational Administration

Dale D. Johnson
Professor
Curriculum and Instruction

Herbert J. Klausmeier V.A.C. Henmon Professor Educational Psychology Joel R. Levin
Professor
Educational Psychology

James M. Lipham
Professor
Educational Administration

Dominic W. Massaro Professor Psychology

Donald M. McIsaac
Professor
Educational Administration

Wayne Otto
Professor
Curriculum and Instruction

Penelope L. Peterson Assistant Professor Educational Psychology

Thomas S. Popkewitz
Professor
Curriculum and Instruction

Gary G. Price
Assistant Professor
Curriculum and Instruction

W. Charles Read Professor English and Linguistics

Thomas A. Romberg
Professor
Curriculum and Instruction

Richard A. Rossmiller Professor Educational Administration

Peter A. Schreiber Associate Professor English and Linguistics

B. Robert Tabachnick
Professor
Curriculum and Instruction

Gary G. Wehlage Professor Curriculum and Instruction

Louise Cherry Wilkinson Associate Professor Educational Psychology

Steven R. Yussen Professor Educational Psychology



